

Application No. 10/087,256
Amendment "A" dated December 6, 2004
Reply to Office Action mailed September 9, 2004

REMARKS

Applicants and Applicants' attorney express appreciation to the Examiner for the courtesies extended during the recent interview held on December 2, 2004. Reconsideration and allowance of the above-identified application are now respectfully requested. Claims 1 and 3-26 are pending, wherein claims 1, 3, 20, 23 and 25 have been amended, claim 2 has been cancelled, and new claim 26 has been added.

The Office Action rejects claims 2 and 3 alleging they are indefinite under 35 U.S.C. § 112, ¶ 2. The rejection to claim 2 is moot in view of its cancellation. Claim 3 is rejected on the grounds that "it is unclear how the generic polyester per lines 3-4 distinguishes over the aliphatic-aromatic copolyester per lines 5-7" and "how the generic polyester formed from succinic acid per line 5, distinguishes over the succinate-containing polyesters per line 8." In response, claim 3 was amended to eliminate the aliphatic-aromatic and succinate polymer species, thus overcoming this rejection. New claim 26 was added to claim the species removed from claim 3.

The primary references (U.S. Patent No. 5,252,642 to Sinclair et al. and U.S. Patent No. 5,910,545 to Tsai et al.) each describe a blend that requires polylactic acid polymer blended with another polymer. Sinclair discloses "blends of a physical mixture of poly(lactic acid) and blend-compatible elastomers" (e.g., Hytrel 4056, a polymer having a T_g of -29°C . according to U.S. Patent No. 6,465,573 to Maruko et al.). Sinclair, col. 2, lines 49-57; Maruko, Table 6. Tsai discloses a composition that includes "an unreacted mixture of a poly(lactic) acid polymer, a polybutylene succinate polymer or a polybutylene succinate adipate polymer or mixture of such polymers". Tsai, col. 1, lines 7-10. According to the present application, polylactic acid is an example of a "stiff synthetic thermoplastic biodegradable polymer".

In order to distinguish over Sinclair and Tsai, claim 1 was amended to recite specific stiff synthetic thermoplastic biodegradable polymers that are not taught in either Sinclair or Tsai. Applicants reviewed Sinclair and Tsai and can find no suggestion for the use of the specific stiff biopolymers recited in claim 1. As a result, Applicants believe the specific polymer blends recited in amended claim 1 are both novel and unobvious over Sinclair and Tsai.

Claim 20 defines a composition that, in addition to comprising a blend of stiff and soft biodegradable polymers, requires the inclusion of at least about 30% by weight of a particulate filler. Applicants note that Sinclair fails to teach or suggest the inclusion of particulate fillers

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and Tsai only discloses up to 10% by weight of fillers. Tsai, col. 8, lines 28-37. U.S. Patent No. 5,180,765 to Sinclair ("Sinclair II") discloses the inclusion of "known filler materials" in an unspecified amount. Sinclair II, col. 15, lines 60-68. Given the fact that none of Sinclair, Sinclair II, and Tsai teach or suggest that the blends are capable of being formed into films or sheets by extrusion, film-blowing or casting, claim 20 was amended to further specify that the composition "is suitable for formation into at least one of sheets or films by means of extrusion, film-blowing, or casting." Support for forming sheets by extrusion, film-blowing and casting is found in the Application at page 49, lines 23-25. Not all polymers and blends are capable of being formed into sheets or films by extrusion, film-blowing, or casting. That is especially true in the case where the composition includes particulate fillers, particularly at higher loadings (*i.e.*, at least about 30% by weight) since particulate fillers tend to weaken and stiffen the polymer matrix. As a result, Applicants submit that claim 20 as amended is unobvious over the art of record.

Claims 23 and 25 were alternatively amended to positively recite that the claimed compositions are in the form of a sheet or film and that the compositions are "formed into the sheet or film by extrusion, film-blowing, or casting". Support for forming sheets by extrusion, film-blowing and casting is found in the Application at page 49, lines 23-25. Such processes inherently yield sheets or films that having a substantially continuous polymer matrix, as opposed to, *e.g.*, non-woven sheets formed by mechanically bundling together a large number of individual fibers to form a discontinuous matrix of such fibers. A film or sheet formed by extrusion, film-blowing, or casting maximizes the potential strength of the polymer blend since it is a substantially continuous matrix of the polymer blend. Non-woven sheets, on the other hand, tend to be much more porous and often more fragile for a sheet of a given thickness compared to continuous sheets and films.

Neither Sinclair nor Sinclair II teach or suggest the manufacture of sheets or films. Instead, Sinclair discloses molded articles that are injection molded from the disclosed compositions. Sinclair, col. 6, line 39 ("blends are injection-molded"), col. 9, lines 13-17 (composition "processed by melt fabrication into . . . containers, eating utensils, trays, plates, drinking cups, single serving trays, syringes, medical trays, and the like", but not sheets or films). Sinclair II teaches nothing with respect to use or formation of the compositions into sheets or films. Tsai, on the other hand, only discloses the formation of fibers and non-woven

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structures made from such fibers. Tsai, col. 3, lines 1-4; col. 3, lines 17-18; col. 9, lines 53-58. Examples of non-woven structures include disposable absorbent products such as diapers, adult incontinent products, bed pads, sanitary napkins, tampons, wipes, bibs, wound dressings, surgical capes and drapes. Col. 12, lines 43-51. Such products are different than sheets or films formed by extrusion, film-blowing or casting, which all have substantially continuous structures rather than the interlocking fibrous matrix of a non-woven structure. The fact that fibers may be made by extrusion doesn't change the fact that sheets formed directly by extrusion, film-blowing or casting are inherently different from non-woven sheets made from extruded fibers. Forming intermediate fibers by extrusion that are later used to make non-wovens is not the same as forming a sheet by extrusion. For this reason, Applicants submit that claims 23 and 25 are novel and unobvious over the art of record.

Finally, Applicants wish to bring to the attention of the Examiner U.S. Patent No. 6,573,340, which is not prior art because it has the same inventive entity and was issued after the filing date of the present application. It was originally assigned to the same original assignee of the present application. Both were reassigned to the current assignee.

The Examiner should review the claims of this patent to determine if it raises any obviousness-type double patenting issues relative to the claims of the present application. If so, Applicants invite the Examiner to initiate a telephonic interview with the undersigned attorney so that a terminal disclaimer can be promptly filed to overcome such rejection. Moreover, the Examiner is invited to initiate a telephonic interview with the undersigned attorney in the event there are any other issues needing resolution that would prevent the allowance of this application.

Dated this 6th day of December 2004.

Respectfully submitted,



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